## REMARKS

Claims 1-52 are pending in the application. Claims 1, 4-7, 18, 20, 22, 26, 43 and 50 have been amended. New claims 51and 52 have been added. No new matter has been added. Reconsideration of the claims is respectfully requested in view of the amendments and the arguments provided below.

Amendments have been made to the Specification to add the serial numbers of patent applications previously referred to by title, date of filing and inventors' names, and to correct a grammatical error.

Claims 1, 4-7 and 22 have been amended to recite an "interference fringe pattern" instead of an "interference pattern." This amendment has been made for clarification only. Since an interference pattern inherently includes fringes, this amendment does not narrow the cope of claims 1 and 22.

Claims 1, 22, 26, 43 and 50 have been amended to indicate that the portion of the output light beam directed to the detector unit is a first portion of the output light beam and that the remainder of the output light beam is a second portion. Applicants contend that this amendment does not narrow the scope of the claims since, prior to amendment, it was inherent that a second portion existed. Prior to amendment, the light directed to the detector unit was only a "portion" of the output light beam, and so there inherently was a remainder that was not directed to the detector unit, which is now referred to as the "second portion".

Claim 18 has been amended to provide correct antecedent basis to the second portion of the output light beam.

**Information Disclosure Statements**

Four information disclosure statements have been submitted in this case:

1. June 17, 2002 – 30 references
2. August 26, 2002 – 10 references
3. April 4, 2003 – 1 reference
4. August 7, 2003 – 1 reference

The Examiner has acknowledged only IDS's nos. 2 and 4 by returning initialed copies of the related Forms 1449. The Examiner is kindly requested to acknowledge IDS's 1 and 3 (June

17, 2002 and April 4, 2003) by forwarding initial copies Forms 1440 to Applicants' representative. Courtesy copies of IDS's 1 and 3 (without references) accompany this response.

**Rejections under 35 U.S.C. § 112**

Claims 1-50 are rejected as being vague and indefinite. In particular, it is stated that claims 1, 22, 26, 43 and 50 are incomplete for omitting essential elements. It is further stated that i) there is no structure to produce an interference pattern, and ii) the question is posed, "how does fringe producing optical element cause an interference pattern?" It is also stated that the claims are rendered indefinite because it is not clear iii) where the detector unit is, nor iv) what is the fringe producing optical element, nor v) how to produce an interference pattern. These numbered issued are now addressed in turn.

Issue i): Applicants respectfully point the Examiner to page 7, lines 16-20, where it is stated "a fringe-producing optical element is illuminated and produces an interference fringe pattern. The fringe-producing optical element may be an etalon, typically a solid etalon, that has one surface non-parallel with respect to the other surface. The non-parallel surface may be curved, stepped or flat". The structure that produces the interference pattern is the "fringe-producing element. The "fringe-producing element" is recited in apparatus claims 1 and 22. A "deflecting means" that produces an interference pattern in the second light beam is recited in means-plus-function claim 50. No structure is required in method claims 26 and 43. Accordingly, any structure that may be required in the claims for producing the interference pattern is already part of the claims.

Issue ii): Applicants respectfully assert that the independent claims are not required to teach how the invention operates, and so there should be no requirement to include in the independent claims a description of how an interference pattern is formed. However, as is taught at page 11, lines 13-23, the beam output from the laser "is directed to a fringe-producing optical element 316, such as a non-parallel etalon (NPE)...When illuminated with a beam of light, a fringe-producing optical element produces [a] second beam of light that includes an interference pattern, having interference fringes. The second beam of light may be reflected from the fringe-producing optical element or may be transmitted from the fringe-producing element. Typically, the second beam is formed by two interfering beam components arising from two different surfaces of the fringe-producing element." Thus, the Specification does teach how interference

fringes are formed in the second beam. Furthermore, claim 4 explicitly describes that, in one embodiment, the second light beam includes a first component from a first side of the fringe-producing optical element and a second component from a second side of the fringe-producing optical element, and that the interference fringe pattern is produced by interference between the first and second components. In view of the teachings in the Specification, it is believed that it is clear to one of ordinary skill in the art how an interference pattern is caused.

Issue iii): Applicants respectfully assert that sufficient relationship is described between the detector unit and the rest of the elements of the claim. For example, in claims 1 and 22, it is stated that the fringe-producing optical element is disposed in the beam of output light to direct a first portion of the beam of output light to the detector unit as a second light beam. Accordingly, the second light beam passes from the fringe-producing element to the detector unit. Applicants respectfully assert that no more detail of the position of the detector unit need be given.

Issue iv): The Examiner is referred to the response to item i) above. In addition, many different types of fringe-producing elements are shown in the Application, for example, in FIGs. 9, 10, 11, 12, and 13, and the descriptions thereof in the Specification. Therefore, in view of the arguments presented above and the description found in the Specification, Applicants respectfully contend that it is clear to one of ordinary skill in the art what a "fringe-producing element" is.

Issue v): This issue is the same as issue ii). The Examiner is referred to the response to issue ii provided above.

Applicants believe all claims comply with 35 U.S.C. § 112.

**Rejections under 35 U.S.C. § 102**

Claims 1-4, 8, 16 and 26-50 are rejected under 35 U.S.C. § 102(e) as being anticipated by Green (U.S. Patent No. 6,331,892). It is stated that Green discloses a laser system comprising a laser (100) producing a beam of output light, a detector unit (108) and a fringe producing optical element disposed (112, 122 and 116) in the beam of output light to direct a portion of the beam of output light to the detector unit, and that an interference pattern is produced in the second light beam by the fringe-producing optical element.

Claims 1-4, 8, 16 and 26-50 are also rejected under 35 U.S.C. § 102(b) as being anticipated by Kalibjian (U.S. Patent No. 6,141,136). It is stated that Kalibjian discloses a laser system comprising a laser (60) producing abeam of output light, a detector unit (22, 22') and a

fringe-producing optical element (6) disposed in the beam of output light to direct a portion of the beam of output light to the detector unit (20, 20'). It is also stated that it is inherent that the quarter wave plate is a light beam collimator.

Green and Independent Claim 1

Independent claim 1 is directed to a laser system that comprises a laser capable of producing a beam of output light and a detector unit. A fringe-producing optical element is disposed in the beam of output light to direct a first portion of the beam of output light to the detector unit as a second light beam. An interference fringe pattern is produced in the second light beam by the fringe-producing optical element. A second portion of the output light beam, different from the first portion, propagates from the fringe-producing optical element. A control unit is coupled to receive detector information from the detector unit. The control unit is coupled to the laser to control the wavelength of the beam of output light in response to the information received from the detector unit.

To anticipate a claim, the reference must teach every element of the claim. "A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros. v. Union Oil Co. of California*, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). "The identical invention must be shown in as complete detail as is contained in the ... claim." *Richardson v. Suzuki Motor Co.*, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989). Therefore, all claim elements, and their limitations, must be found in the prior art reference to maintain a rejection based on 35 U.S.C. §102. Applicants respectfully submit that Green does not teach every element of the rejected claims, and therefore fails to anticipate the claims.

In claim 1, the fringe-producing element is disposed in the output beam produced by the laser, and second portion of the output beam propagates from the fringe-producing element. Green, in contrast, teaches a laser (100) that produces a beam (106) that is intercepted by a beamsplitter (112). The beamsplitter reflects a portion (132) of the incident light to an oscillating retroreflector (122) (a mirror that moves back and forth) and transmits the remainder as beam (134) to a stationary retroreflector (116) (a fixed mirror). The light reflected from the two mirrors (116 and 122) is directed as beam 136 to the detector (108). There is interference between the

light from the two mirrors, which results in variations in optical intensity that are measured by the detector.

Green fails to teach all the elements of the invention of claim 1. First, Green fails to show that a second portion of the output beam that propagates from the fringe-producing element. The second portion is, for example, a beam that can be used as the useful output from the laser, such as beam 918 in FIGs. 9 and 10 of the present application. Instead, Green shows that all the light in the beam (130) is used in the formation of the fringe pattern at the detector (108).

Applicants also disagree with the characterization that Green discloses a fringe-producing element. Green does not teach an element that produces fringes, but instead teaches an assembly of elements that together produce fringes. The assembly of elements includes a beamsplitter and two mirrors. However, none of these elements is, *per se*, fringe-producing.

Since Green fails to teach all the elements of claim 1, claim 1 is not anticipated by Green.

Green and Independent Claim 26

The invention of method claim 26 is directed to a method of stabilizing an operating frequency of an output light beam produced by a laser. The method comprises splitting a first portion from the output light beam as a second light beam using a fringe-producing optical element. The fringe-producing optical element causes an interference fringe pattern in the second light beam. A second portion of the output light beam, different from the first portion, propagates from the fringe-producing optical element. Portions of the interference fringe pattern are detected using a detector unit. Detector signals are produced in response to the detected portions of the interference fringe pattern. A frequency control signal is generated in response to the detector signals, and the laser is tuned in response to the frequency control signal so that the operating frequency of the output light beam is substantially at a desired value.

Green fails to teach all the elements of claim 26. In particular, Green fails to teach propagating a second portion of the output light beam, different from the first portion, from the fringe-producing element. Instead, Green teaches that all of the output beam (130) is directed to the detector (108).

Accordingly, claim 26 is not anticipated by Green

Regarding claims 26 and 43, it is stated in the Office Action that the methods of stabilizing an operating frequency of an output light beam are considered as product by process

steps. Applicants respectfully assert that it is wrong to characterize claims 26-49 as product by process claims. Claims 26-49 are method claims, and have nothing to do with product-by-process.

Green and Independent claim 43

The invention of independent claim 43 is directed to a method of stabilizing an operating frequency of an output light beam produced by a laser. The method comprises splitting a first portion from the output light beam as a second light beam using a fringe-producing optical element, the fringe-producing optical element causing an interference fringe pattern in the second light beam, a remainder of the output light beam after splitting the first portion being a second portion of the output light beam. The operating frequency of the output light beam is stabilized using the interference fringe pattern.

Green fails to teach all the elements of claim 43. In particular, Green fails to teach that a remainder of the output light beam after splitting the first portion forms a second portion of the output light beam. Instead, Green teaches that all the light in the light beam 130 is directed to the detector (108).

Accordingly, Green fails to anticipate claim 43.

Green and Independent claim 50

The invention of independent claim 50 is directed to a system for stabilizing an operating frequency of an output light beam produced by a laser. The system comprises a laser capable of producing an output light beam. The system also comprises fringe-forming means for splitting the output light beam into a second light beam and a third light beam and for forming an interference fringe pattern in the second light beam, the third light beam propagating from the fringe-forming means. The system also includes means for stabilizing the operating frequency of the output light beam using the interference fringe pattern.

Green fails to teach all the elements of independent claim 50. In particular, Green fails to teach fringe-producing means that produces a first beam with an interference fringe pattern and a second beam that propagates from the fringe-producing means. Instead, Green teaches that all the incident light (130) forms the beam (136) that contains the fringe pattern.

Accordingly, Green fails to anticipate claim 50.

Kalibjian and Independent Claim 1

Kalibjian does not show all the elements of claim 1. It is important to note from the outset that Kalibjian teaches an optical receiver based on homodyne detection and does not teach or suggest a laser whose frequency is stabilized.

In particular, Kalibjian teaches a homodyne optical receiver that uses an optical hybrid to give simultaneous phase- and polarization diversity properties (col. 1, lines 5-8). The receiver system is shown in FIG. 7, where light from a laser (60) is split by a beamsplitter (62) and re-directed by a mirror (64) into two beams, SIG (= signal) and LO (= local oscillator) that are directed to two respective ports in the hybrid receiver (52). A phase shifter (66A, 66B) is placed in each input port of the hybrid (52). The phase shifter (66B) in the LO port is used for phase biasing as controlled electronically by the bias controller (70). The phase shifter (66A) in the SIG port is used for digital modulation of 1's and 0's as controlled electronically by the phase-encoder (68) driven by the input data line (74). The digitally modulated signal (SIG) and the local oscillator signal (LO) are mixed in the hybrid and the digital data is extracted. (col. 6, line 65 – col. 7, line 27).

The hybrid (52) is shown in FIG. 6. The SIG and LO beams are co-linearly aligned within a Inside the QWP/etalon (38) by steering the beams to equal incident beam angles at the etalon faces with respective beam-steering prism mirrors (7A and 7B). The incident beam angle is selected for a particular etalon phase angle. The mixing of the co-linearly aligned SIG and LO beams inside the QWP/etalon (38) generates the output interference beams $P_1$ and $P_2$. The layout for the hybrid module (52) is similar to the module shown in FIG. 4 except that $P_2$ is split into orthogonally polarized beams, $P_{2x}$ and $P_{2y}$, by the polarizing beam splitter (40). The three beams are directed through respective GRIN lenses (9C, 9D and 9E) to a 3-channel photoreceiver (not shown).

The invention of claim 1 has been amended to include features from claim 20, namely a control unit for controlling the wavelength of the laser based on the signals received from the detector unit that detects the interference fringe pattern of the second light beam. Accordingly, the anticipation rejection under Kalibjian has been rendered moot, since Kalibjian fails to show a control unit as claimed.

It was stated in the Office Action, however, that claim 20 was rejected under a combination of Kalibjian and Vilhelmsson et al. (U.S. Patent Publication 2002/0181519) (Vilhelmsson). Vilhelmsson was described in the previously submitted response.

Applicants contend that the proposed combination of Kalibjian and Vilhelmsson still fails to teach all the elements of the invention of claim 1, that there would be no motivation to combine Kalibjian with Vilhelmsson in the manner suggested, and that there would be no reasonable expectation of success.

First, consider the alleged motivation to combine the references. Vilhelmsson teaches an approach to stabilizing the output wavelength of a laser. Vilhelmsson teaches the use of a polarizing beamsplitter to split off a portion of the output beam to a non-planar etalon, or fringe-producing element. The interference fringe pattern that results from the light beam incident on the fringe-producing element is detected and the resulting detection signals used to stabilize the laser wavelength. Kalibjian, on the other hand, does not teach anything to do with laser wavelength stabilization. Instead, Kalibjian teaches a homodyne detector system that uses a laser to produce a local oscillator signal. Kalibjian does not teach or describe any method of controlling the wavelength of the laser based on the signals produced by his etalon: the etalon is used to mix the SIG and LO signals so as to produce a mixed signal from which the digital information modulated on the SIG signal can be determined.

Accordingly, since Kalibjian has nothing to do with laser stabilization, one of ordinary skill in the art would not be motivated to combine the references in the manner proposed.

Furthermore, the motivation suggested in the Office Action for combining the references is inadequate. In the Office Action, the purported motivation is that "such modification and variations can be made without departing from the spirit and scope of the invention." Applicants disagree that sufficient motivation to combine the references has been provided.

There must be some actual *motivation* to combine the references found in the references themselves, the knowledge of one of ordinary skill in the art or from the nature of the problem to be solved that would suggest the combination. Without a suggestion of the desirability of "the combination," a combination of such references is made in hindsight, and the "range of sources available, however, does not diminish the requirement for actual evidence." *In re Dembiczak*, 50 USPQ2d 1614 (Fed. Cir. 1999). It is a requirement that actual evidence of a suggestion, teaching or motivation to combine prior art references be shown, and that this evidence be "clear and

particular." *Id.* Broad conclusory statements regarding the teaching of multiple references, standing alone, are not evidence. *Id.* For example, there is nothing in Kalibjian that would suggest to one of ordinary skill in the art that the laser (60) would be better if it were frequency-stabilized. Furthermore, there is no suggestion in Vilhelmsson that the laser should be combined with a homodyne detector.

The examiner must show some objective teaching leading to the combination. *In re Fine*, 837 F.2d 1071, 1075, 5 USPQ2d 1596, 1600 (Fed. Cir. 1988). It is respectfully submitted that there is no such objective teaching in Kalibjian that leads "to the combination" of Kalibjian with Vilhelmsson, and it is respectfully submitted that the Examiner has pieced together aspects purportedly found in the prior art to arrive at the invention through hindsight. As stated by the Federal Circuit:

> "Combining prior art references without evidence of such a suggestion, teaching, or motivation simply **takes the inventor's disclosure as a blueprint for piecing together the prior art to defeat patentability--the essence of hindsight**."

*In re Dembiczak*, 50 USPQ2d 1614, (Fed. Cir. 1999) (*citing Interconnect Planning Corp. v. Feil*, 774 F.2d 1132, 1138, 227 USPQ 543, 547 (Fed. Cir. 1985); emphasis added). Therefore, it is respectfully submitted that another requisite prong in establishing a *prima facie* case of obviousness has not been met.

Furthermore, one of ordinary skill could not reasonably expect success in modifying Kalibjian in view of Vilhelmsson in the manner suggested. Combining Vilhelmsson with Kalibjian would result in the production of a homodyne receiver that uses a wavelength-stabilized laser that is stabilized in the manner taught by Vilhelmsson. This system would not have the elements as claimed in claim 20.

Furthermore, the proposed combination of references fails to teach all the elements of claim 1. In particular, neither of the references teach or suggest the placement of a fringe-producing element in the output beam from a laser so as to produce a second light beam that is imposed with an interference fringe pattern and to produce a third beam that can be used as the useful output.

It should be noted that one of the advantages of the present invention is that an interference fringe pattern may be produced from the output beam of a laser without using a beamsplitter that first splits off part of the beam: the use of such a beamsplitter is taught, for

example, by Vilhelmsson. The interference fringe pattern of the present invention, on the other hand, can still be used for producing signals that can be used for stabilizing the wavelength of the laser. In other words, the function of separating light from the output beam, and of forming an interference pattern using the separated light has been preserved, but the beamsplitter has been omitted. The omission of an element with the retention of its function is indicia of non-obviousness, *In re Edge*, 359 F.2d 896, 149 USPQ 556 (CCPA 1966), see MPEP § 2144.04.II.B.

For these reasons, Applicants contend that amended claim 1 is patentable over the cited art.

Kalibjian and Independent Claim 26

According to independent claim 26, detector signals are produced in response to the detected portions of the interference fringe pattern, and a frequency control signal is generated in response to the detector signals. Furthermore, the laser is tuned in response to the frequency control signal so that the operating frequency of the output light beam is substantially at a desired value.

Kalibjian fails to teach the generation of a frequency control signal and tuning the laser in response to the frequency control signal so that the operating frequency of the output light beam is substantially at a desired value. Instead, as has been discussed above, Kalibjian teaches a homodyne receiver, which is unrelated to laser wavelength stabilization.

Accordingly, Kalibjian fails to teach all the elements of claim 26, and claim 26 is not anticipated by Kalibjian.

Regarding claims 26 and 43, it is stated in the Office Action that the methods of stabilizing an operating frequency of an output light beam are considered as product by process steps. Applicants respectfully assert that it is wrong to characterize claims 26-49 as product by process claims. Claims 26-49 are method claims, and have nothing to do with product-by-process.

Kalibjian and Independent Claim 43

According to claim 43, the operating frequency of the output light beam is stabilized using the interference fringe pattern formed in the second light beam.

As has been pointed out, Kalibjian does not teach anything to do with stabilizing the frequency of a laser, but instead teaches a homodyne receiver. Accordingly, Kalibjian fails to teach all the elements of claim 43, and does not anticipate claim 43.

Kalibjian and Independent Claim 50

According to claim 50, a system for stabilizing an operating frequency of an output light beam produced by a laser includes means for stabilizing the operating frequency of the output light beam using the interference fringe pattern.

Kalibjian fails to teach the means for stabilizing. Kalibjian does not teach a system in which the laser frequency is stabilized but teaches, instead, a homodyne receiver. Accordingly, Kalibjian fails to anticipate claim 50.

Dependent claims 2-4, 8, 16, 27-42 and 44-49

Dependent claims 2-4, 8, 16, 27-42 and 44-49, which are dependent from independent claims 1, 26, and 43, were also rejected under 35 U.S.C. §102 as being anticipated by Green and Kalibjian. While Applicants do not acquiesce with the particular rejections to these dependent claims, it is believed that these rejections are moot in view of the remarks made in connection with independent claims 1, 26 and 43. These dependent claims include all of the limitations of the base claim and any intervening claims, and recite additional features which further distinguish these claims from the cited references. Therefore, dependent claims 2-4, 8, 16, 27-42 and 44-49 are also in condition for allowance.

Regarding claim 3, Applicants contend that the assertion that a quarter wave plate is inherently a collimator is wrong. A quarter wave plate is a plate of birefringent material that retards light in different polarization states by different amounts. A collimator is a device used to collimate a beam of light by changing its divergence. The operation of a collimator has nothing to do with birefringent retardation, and the fact that light passes through a quarter wave plate does not inherently imply that the light must be collimated.

Regarding claim 8, Green fails to teach a reflector that reflects the interference fringe pattern to the detector unit.

Regarding claim 16, Green fails to teach the fringe-producing optical element transmitting the second light beam to the detector unit. Instead, Green teaches that the light beams 132 and 134 are reflected.

Regarding claims 28 and 45, neither Green nor Kalibjian teach a non-parallel etalon. Instead, Green teaches a Michelson interferometer and Kalibjian teaches a flat/parallel etalon.

Regarding claims 29 and 30, neither Green nor Kalibjian teach the use of a wedged etalon or a non-planar etalon.

Regarding claims 31 and 32, neither Green nor Kalibjian teach the use of a Fresnel etalon or a binary etalon.

Regarding claims 27 and 46, neither Green nor Kalibjian teach the use of a diffractive etalon.

Regarding claims 36 and 49, neither Green nor Kalibjian teach the use of no more than about 10% of the output beam in the second beam that contains the interference fringe pattern.

**Rejection under 35 U.S.C. § 103**

Dependent claims 5-7, 9-15 and 17-25 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Kalibjian or Green, in view of Vilhelmsson et al. (U.S. Patent Publication No. 2002/0181519) (Vilhelmsson). Vilhelmsson is described above.

Dependent Claims 5-7, 9-15, and 17-21

Vilhelmsson fails to correct the deficiencies of Green and Kalibjian discussed above. In particular, Vilhelmsson fails to teach a frequency stabilized laser system in which a fringe-producing element is disposed in the output beam from the laser to produce a second light beam on which is imposed an interference fringe pattern that is used for stabilizing the laser frequency. Instead, Vilhelmsson teaches the use of a beamsplitter to split off a portion of the laser's output beam, and then the creation of an interference fringe pattern from that portion that was split off.

Accordingly, dependent claims 5-7, 9-15 and 17-21 are allowable over the proposed combination of Green or Kalibjian with Vilhelmsson.

Regarding claims 9-15 and 17, it is stated in the Office Action that it would have been obvious to one of ordinary skill in the art at the time the invention was made to have different kinds of etalon, since it has been held to be within the general skill of a worker in the art to select

a known material on the basis of its suitability for the intended use as a matter of obvious design choice. Applicants respectfully disagree with the Examiner. The Examiner has essentially taken Official Notice that the different embodiments of etalon described in claims 9-15 and 17 are well known. Applicants respectfully request that the Examiner provide specific evidence that it was known to use each of the different embodiments of etalon discussed in claims 9-15 and 17 for measuring wavelength of laser light and for applying such a measurement to wavelength stabilization.

Regarding claim 18, neither of the proposed combinations of references teach or suggest using a fringe-producing element to produce first and second portions of the output light beam, where the interference fringe pattern is imposed on the first portion and the second portion is focused into an optical fiber, for example as a useful optical output.

Independent Claim 22

It is stated in the Office Action that neither Green nor Kalibjian teach an optical communications transmitter unit, a control unit, an optical receiver unit and an optical fiber communication link, but that Vilhelmsson teaches these elements, and that it would have been obvious to one of ordinary skill in the art to modify [Green and] Kalibjian to have the transmitter, control unit, receiver and fiber communications link as taught by Vilhelmsson because those skilled in the art will recognize that such modification and variations can be made without departing from the spirit of the invention.

Applicants respectfully disagree. Three criteria must be met to establish a *prima facie* case of obviousness. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference. Second, there must be a reasonable expectation of success. Finally, the prior art reference, or combination of references, must teach or suggest all the claim limitations. MPEP § 2142. Applicants respectfully traverse the rejection since the prior art fails to disclose all the claim limitations and there would be no motivation to combine the references as proposed by the Examiner.

First, the proposed combinations of references fail to teach or suggest all the elements of the invention of independent claim 22. In particular, none of the references teach or suggest a wavelength stabilizing unit that includes a detector unit and a fringe-producing optical element

disposed in the laser output beam, where the fringe-producing element directs a first portion of the laser output beam to the detector unit as a second light beam and causes an interference fringe pattern in the second light beam, and where a second portion of the output light beam propagates from the fringe-producing optical element to be transferred in the optical fiber communications link. Accordingly, the proposed combinations of references fail to teach or suggest all the elements of claim 22.

In addition, the motivation provided in the Office Action for combining the references in the manner suggested is inadequate. The proposed motivation is "because those skilled in the art will recognize that such modification and variations can be made without departing from the spirit of the invention." This is not motivation, since it does not provide a reason why one of ordinary skill in the art would want to make the combination. The mere fact that the references can be combined or modified is not sufficient to establish *prima facie* obviousness. MPEP § 2143.01.

Thus, since the proposed combinations of references fail to teach or suggest all the elements of the invention, and since insufficient motivation has been provided to make the combinations as proposed, Applicants respectfully assert that the invention of claim 22 is patentable over the proposed combinations of references.

Dependent Claims 23-25

Dependent claims 22-25 depend from allowable claim 22 and are also, therefore, allowable.

**New claims**

New claims 51 and 52 have been added to depend from claims 26 and 43 respectively. New claims 51 and 52 are directed to directing the second portion of the output light beam into an optical fiber. Support for these new claims is found, for example, in FIGs. 9 and 10 and the relevant descriptions thereof in the Specification.

**Conclusion**

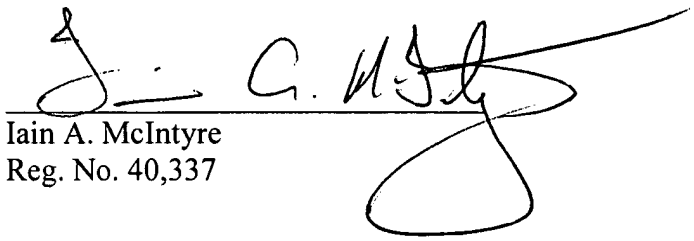
In view of the amendments and reasons provided above, it is believed that all pending claims are in condition for allowance. Applicants respectfully request favorable reconsideration and early allowance of all pending claims.

If a telephone conference would be helpful in resolving any issues concerning this communication, please contact Applicants' attorney of record, Iain A. McIntyre at 612-436-9610.

Respectfully submitted,

CCVL P.A.
Customer Number 38846

Date: January 9, 2004

By: 
Iain A. McIntyre
Reg. No. 40,337